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MEMORANDUM FOR DISTRIBUTION

FROM: DR. ROBERT GOLDSMITH
DIRECTOR OF OPERATIONS OVERSIGHT
ENVIRONMENTAL MANAGEMENT

SUBJECT: Electrical Practices Assessment Guidance

In his memorandum of April 17, 2009, regarding the Office of Environmental Management (EM) response to the electrocution near miss at the East Tennessee Technology Park, Mr. Owendoff mentioned other actions to be carried out by both the Field and Headquarters. One of these actions, which will help guide other initiatives, is an assessment of electrical practices at each EM site to be conducted by Federal oversight staff alone or in conjunction with site contractor personnel. Attached is a Criteria and Review Approach Document which delineates some suggested areas to be assessed during the review. However, you can modify the specific areas to be examined, as appropriate for your site.

Please send a copy of your plan for the assessment to me as soon as one is finalized, and submit your assessment report by June 30, 2009.

If you have any questions, please call me at (301) 903-4954, or Craig Scott at (301) 903-2192. Thank you for your cooperation.

Attachment

cc:
I. Triay
J. Owendoff
D. Chung
EM-62 staff

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FUNCTIONAL AREA:	OBJECTIVE: EP.1
Electrical Practices	DATE:

OBJECTIVE

EP.1 Electrical practices at the site are compliant, safe, effective, programmatically established, fully implemented and monitored.

CRITERIA

1. On-site electrical practices are compliant with OSHA 1910.147 *Control of Hazardous Energy (lockout/tagout*), OSHA 1910.333, *Selection and Use of Work Practices,* and NFPA 70E, *Electrical Safety in the Workplace*, as necessary to implement ISMS principles and to comply with 10 CFR 851, *Worker Safety and Health Program.* The following specific topics will be evaluated:
    a. All electrical work (including routine electrical work) planning is conducted with appropriate scope, duration, rigor, hazard analysis, and coordination with the responsible work control organization(s).
    b. The responsible work control organization and workers ensure that electrical work is appropriately categorized so that high hazard work receives rigorous planning and review, isolation boundaries are adequately established, and work is conducted under work step controlled documentation where appropriate. Note: All electrical work is considered high risk/hazard until such time an electrically safe work condition (per NFPA 70E, Article 120) had been established.
    c. Personnel training and qualification requirements are established and implemented for personnel authorized to perform lockout/tagout, absence of voltage verifications (e.g. zero energy checks), and hot work (when complete isolation of the hazard is not possible).
    d. Absence of voltage verifications (e.g. zero energy checks) are programmatically established, fully implemented throughout the site, documented in work packages, and monitored for compliance by supervisory and oversight personnel.
    e. Shock Hazard Analyses are adequately completed per NFPA 70E.
    f. Arc Flash Hazard Analyses are adequately completed (when required) per NFPA 70E.
    g. Personal protective equipment requirements are defined, implemented and in compliance with NFPA 70E requirements.
    h. Pre-job briefing requirements are established and consistently implemented to support performance of electrical work.

i. The *Alerting Techniques* required in NFPA 70E (2009), *Electrical Safety in the Workplace*, section 130.7(E)(4) are implemented. If not, evaluate the status of implementation and include within the assessment report.
j. Approach boundary requirements of NFPA 70E are clearly understood and incorporated into work processes to ensure workers are not exposed to electrical hazards.

2. If exclusions are invoked under OSHA 1910.269, *Electrical Power Generation, Transmission and Distribution*, the following specific topics will be evaluated:
    a. Any site electrical work invoking OSHA 1910.269, complies with *Integrated Safety Management System (ISMS)* priciples, in particular, the identification and control of hazards is defined and implemented in work instructions.
    b. Pre-job briefing requirements are established and consistently implemented to support performance of electrical work.
    c. Compliance with 10 CFR 851, *Worker Safety and Health Program* is maintained.
    d. The interface between 1910.269 processes and 1910.333 and 1910.147 (e.g. facility hazardous energy control and high voltage controls) shall be clearly defined and understood by site personnel.
    e. The physical interface point (e.g. secondary side of transformer, weatherhead) between 1910.269 processes and 1910.333 and 1910.147 shall be clearly defined and understood by site personnel.
    f. Personnel working to 1910.269 processes shall be qualified to perform 1910.269 high voltage work.
    g. Electrical distribution switching orders are current and consistent with actual configuration of electrical distribution system.
    h. Processes for testing electrical lines and equipment to ensure they are de-energized and application of grounds are defined, clearly understood, and consistently implemented.
    i. Management assessment of 1910.269 processes are implemented and effective
    j. Definition and use of personal protective equipment are compliant with requirements.

References:

- OSHA 1910.147, *The Control of Hazardous Energy (lockout/tagout)*
- OSHA 1910.269, *Electrical Power Generation, Transmission and Distribution*
- OSHA 1910.333, *Selection and Use of Work Practices*
- 10 CFR 851, *Worker Safety and Health Program*
- NFPA 70E, *Electrical Safety in the Workplace*